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Jawaharlal Nehru
“Step Out From the Old to the New”

IS/ISO 105-C10 (2006): Textiles- Tests for colour fastness Part C10 Colour fastness to washing with soap or soda and soda [TXD 5: Chemical Methods of Test]

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Bhartṛhari—Nītiśatakam
“Knowledge is such a treasure which cannot be stolen”

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(Superseding IS 687 : 1979, IS 764 : 1979, IS 765 : 1979,
IS 3361 : 1979 and IS 3417 : 1979)

भारतीय मानक

वस्त्रादि — रंग के पक्केपन के परीक्षण

भाग सी10 साबुन या साबुन और सोडा से धुलाई पर रंग का पक्कापन

Indian Standard

TEXTILES — TESTS FOR COLOUR FASTNESS

PART C10 COLOUR FASTNESS TO WASHING WITH SOAP OR SOAP AND SODA

ICS 59.080.01

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

September 2008

Price Group 5

Chemical Methods of Test Sectional Committee, TXD 05

NATIONAL FOREWORD

This Indian Standard (Part C10) which is identical with ISO 105-C10 : 2006 'Textiles — Tests for colour fastness — Part C10: Colour fastness to washing with soap or soap and soda' issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on the recommendation of the Chemical Methods of Test Sectional Committee and approval of the Textile Division Council.

Colour fastness of dyed/printed textile materials to various agencies during their further treatment or actual use is an important performance requirement from the viewpoint of the user or consumer. The various agencies to which textile materials may be subsequently subjected may include water, acids, alkalis, organic solvents, washing, laundering, drycleaning, perspiration, light, gaseous fumes, bleaching, rubbing, carbonizing, felting, etc, and the colour of textile materials should be fast to these agencies and should not change considerably. The colour should also not bleed and stain the adjacent fabrics which are subjected to these agencies along with coloured fabrics. The colour fastness property of coloured textiles is, therefore, measured in terms of colour fastness ratings with respect to change in colour and/or staining of adjacent fabrics.

Since colour fastness is one of the most important requirement for export of textiles, it is considered essential that Indian Standards related to colour fastness are completely harmonized with International Standards. The various Indian Standards on colour fastness testing, are, therefore, being revised to align them with the corresponding International Standards. The Indian Standards are being published in Sections A to Z.

This standard is intended to test colour fastness of textile materials to washing under different conditions of use. At present following Indian Standards related to evaluation of colour fastness to washing are available:

IS 687 : 1979	Method for determination of colour fastness of textile materials to washing: Test 1 (*second revision*)
IS 764 : 1979	Method for determination of colour fastness of textile materials to washing: Test 3 (*second revision*)
IS 765 : 1979	Method for determination of colour fastness of textile materials to washing: Test 4 (*second revision*)
IS 3361 : 1979	Method for determination of colour fastness of textile materials to washing: Test 2 (*first revision*)
IS 3417 : 1979	Method for determination of colour fastness of textile materials to washing: Test 5 (*first revision*)

After publication of this standard all the above mentioned standards shall stand withdrawn.

The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.

b) Comma (,) has been used as a decimal marker in the International Standard, while in Indian Standards the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards which are to be substituted in their respective places

(*Continued on third cover*)

Indian Standard

TEXTILES — TESTS FOR COLOUR FASTNESS

PART C10 COLOUR FASTNESS TO WASHING WITH SOAP OR SOAP AND SODA

1 Scope

This part of ISO 105 specifies five methods intended for determining the resistance of the colour of textiles of all kinds and in all forms to washing procedures, from mild to severe, used for normal household articles

This part of ISO 105 is designed to determine the effect of washing only on the colour fastness of the textile It is not intended to reflect the result of the comprehensive laundering procedure.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 105-A01, *Textiles — Tests for colour fastness — Part A01: General principles of testing*

ISO 105-A02, *Textiles — Tests for colour fastness — Part A02: Grey scale for assessing change in colour*

ISO 105-A03, *Textiles — Tests for colour fastness — Part A03: Grey scale for assessing staining*

ISO 105-A04 *Textiles — Tests for colour fastness — Part A04: Method for the instrumental assessment of the degree of staining of adjacent fabrics*

ISO 105-A05, *Textiles — Tests for colour fastness — Part A05: Instrumental assessment of change in colour for determination of grey scale rating*

ISO 105-F, *Textiles — Tests for colour fastness — Part F: Standard adjacent fabrics*

ISO 105-F01, *Textiles — Tests for colour fastness — Part F01: Specification for wool adjacent fabric*

ISO 105-F02, *Textiles — Tests for colour fastness — Part F02 Specification for cotton and viscose adjacent fabrics*

ISO 105-F03, *Textiles — Tests for colour fastness — Part F03: Specification for polyamide adjacent fabric*

ISO 105-F04, *Textiles — Tests for colour fastness — Part F04: Specification for polyester adjacent fabric*

ISO 105-F05, *Textiles — Tests for colour fastness — Part F05: Specification for acrylic adjacent fabric*

ISO 105-F06, *Textiles — Tests for colour fastness — Part F06 Specification for silk adjacent fabric*

ISO 105-F07, *Textiles — Tests for colour fastness — Part F07: Specification for secondary acetate adjacent fabric*

ISO 105-F10, *Textiles — Tests for colour fastness — Part F10: Specification for adjacent fabric: Multifibre*

ISO 105-J01 *Textiles — Tests for colour fastness — Part J01: General principles for measurement of surface colour*

ISO 105-J03, *Textiles — Tests for colour fastness — Part J03: Calculation of colour differences*

ISO 3696, *Water for analytical laboratory use — Specification and test methods*

3 Principle

A specimen of the textile in contact with one or two specified adjacent fabrics is mechanically agitated under specified conditions of time and temperature in a soap, or soap and soda solution, then rinsed and dried. The change in colour of the specimen and the staining of the adjacent fabric, or fabrics, are assessed with reference to the original fabric, either with the grey scales or instrumentally.

4 Apparatus

4.1 **Suitable mechanical laundering device**, consisting of water bath containing a rotatable shaft which supports, radially, stainless steel containers [(75 mm ± 5 mm diameter) × (125 mm ± 10 mm high)] of capacity (550 ± 50) ml, the bottom of the containers being (45 ± 10) mm from the centre of the shaft.

The shaft/container assembly is rotated at a frequency of (40 ± 2) r/min. The temperature of the water bath is thermostatically controlled to maintain the test solution at the prescribed temperature ± 2 °C.

Other mechanically devices may be used for this test, provided that the results are identical with those obtained by the apparatus described in 4.1. Be aware of possible contamination (see the note in 7.2).

4.2 **Balance**, accurate to ± 0,01 g (see ISO 105-A01).

4.3 **Mechanical stirrer**, minimum 16,667 s^{-1} (1 000 r/min) to ensure thorough dispersion and prevent settling.

4.4 **Non-corrodible (stainless) steel balls**, approximately 6 mm in diameter.

4.5 **Means of heating the soap solution**, such as a hot plate.

5 Reagents and materials

5.1 **Soap**, containing not more than 5 % moisture and complying with the following requirements based upon dry mass:

- free alkali, calculated as Na_2CO_3: 0,3 % maximum;
- free alkali, calculated as NaOH: 0,1 % maximum;
- total fatty matter: 850 g/kg minimum;
- titre of mixed fatty acids, prepared from soap: 30 °C maximum;
- iodine value: 50 maximum.

The soap shall be free from fluorescent brightening agents.

5.2 Sodium carbonate, anhydrous (Na_2CO_3).

5.3 Soap solution, containing 5 g of soap (5.1) per litre of water (5.4) for test conditions A and B and 5 g of soap (5.1) and 2 g of sodium carbonate (5.2) per litre of water (5.4), for test conditions C, D and E.

It is recommended to vigorously disperse the soap using a mixer (4.3) in grade 3 water at (25 ± 5) °C and stir for (10 ± 1) min.

5.4 Grade 3 water, complying with ISO 3696.

5.5 Adjacent fabrics (see ISO 105-A01), either 5.5.1 or 5.5.2

5.5.1 Multifibre adjacent fabric, complying with ISO 105-F10, according to the temperature used:

- Type DW multifibre adjacent fabric containing wool and acetate (for tests at 40 °C and 50 °C and, in certain cases, to be indicated in the test report, at 60 °C);
- Type TV multifibre adjacent fabric not containing wool and acetate (in certain tests at 60 °C and in all tests at 95 °C).

5.5.2 Two single-fibre adjacent fabrics, complying with the relevant clauses of ISO 105-F01 to ISO 105-F07.

One of the adjacent fabrics shall be made of the same kind of the fibre as that of the textile to be tested or that predominating in the case of blends. The second piece shall be made of the fibre as indicated in Table 1 or, in the case of blends, of the kind of fibre second in order of predominance or as otherwise specified.

Table 1 — Pairs of adjacent fabrics

If first piece is	Second piece	
	For test at 40 °C and 50 °C	For test at 60 °C and 95 °C
Cotton	Wool	Viscose
Wool	Cotton	—
Silk	Cotton	—
Viscose	Wool	Cotton
Acetate	Viscose	Viscose
Polyamide	Wool or cotton	Cotton
Polyester	Wool or cotton	Cotton
Acrylic	Wool or cotton	Cotton

5.6 Non-dyeable fabric, if required (e.g. polypropylene).

5.7 Grey scales, for assessing change in colour and staining (ISO 105-A02; ISO 105-A03), or a **spectrophotometer** for assessing change in colour and staining complying with ISO 105-J01, ISO 105-A04 and ISO 105-A05.

6 Test specimen

6.1 If the textile to be tested is fabric, either

a) attach a specimen 100 mm × 40 mm to a piece of the multifibre adjacent fabric (5.5.1), also 100 mm × 40 mm, by sewing along one of the shorter edges, with the multifibre adjacent fabric next to the face side of the specimen, or

b) attach a specimen 100 mm × 40 mm between the two single-fibre adjacent fabric (5.5.2), also 100 mm × 40 mm by sewing along one of the shorter edges.

6.2 Yarn may be knitted into fabric and tested in this form. Where yarns or loose fibres are to be tested, take a mass of the yarn or loose fibres approximately equal to one-half of the combined mass of the adjacent fabrics and either

a) place it between a 100 mm × 40 mm piece of the multifibre fabric (5.5.1) and a piece of the non-dyeable fabric (5.6) and sew them along all four sides (see ISO 105-A01), or

b) place it between a 100 mm × 40 mm pieces of the two specified single-fibre fabrics (5.5.2) and sew them along all four sides.

6.3 Determine the mass, in grams, of the composite specimen using the balance (4.2) to aid accurate liquor ratio volumes.

7 Test procedures

7.1 Prepare the soap solution (5.3) according to the test used.

7.2 Place the composite specimen in the container together with the specified number of steel balls (Table 2). Add the necessary amount of soap solution (5.3) preheated to the test temperature ± 2 °C, according to Table 2, to give a liquor ratio of 50:1 ml/g. Close the container and operate the machine at the temperature and for the time specified in Table 2. Begin timing as soon as the container is closed.

Table 2 — Test conditions

Test number	Temperature °C	Time	Number of steel balls	Sodium carbonate
A (1)	40	30 min	0	–
B (2)	50	45 min	0	–
C (3)	60	30 min	0	+
D (4)	95	30 min	10	+
E (5)	95	4 h	10	+

Care should be taken to differentiate clearly between containers used for testing with and without fluorescent brighteners.

NOTE Containers (see 4.1) could be contaminated by the fluorescent brightening agents present in other test detergents and in commercial detergents. This could affect the colour fastness ratings of test specimens if such contaminated containers were subsequently used for tests using a detergent without fluorescent brighteners.

7.3 For all tests, remove the composite specimen at the end of the wash and place it in a 4 l beaker half filled with grade 3 water (5.4) at ambient temperature. Gently agitate, rinse for 1 min and then place the beaker under a cold running tap for 1 min.

7.4 For all methods, extract the excess water from the composite specimen by squeezing the test specimen by hand.

Open out the composite specimen by cutting the stitching except on one of the shorter sides if necessary

7.5 Dry the specimen by pressing it flat between new filter papers to remove excess water. Then dry by hanging it in air at a temperature not exceeding 60 °C, with the parts in contact only at the line of stitching

7.6 Assess the change in colour of the specimen and the staining of the adjacent fabric with reference to the original specimen using either the grey scales or instrumentally. See ISO 105-A02; ISO 105-A03; ISO 105-A04; ISO 105-A05; ISO 105-J03.

8 Test report

The test report shall include the following information:

a) a reference to this part of ISO 105 (ISO 105-C10:2006);

b) all details necessary for complete identification of the sample tested;

c) the test conditions/test number used from Table 2;

d) the numerical grey scale rating and/or instrumental assessment for the change in colour of the specimen.

e) if single-fibre adjacent fabrics were used, the numerical rating for staining of each kind of adjacent fabric used;

f) if a multifibre adjacent fabric was used, the staining of each type of fibre in the multifibre adjacent fabric, and the type of multifibre adjacent fabric used;

g) any deviation, by agreement or otherwise, from the procedure specified.

Bibliography

[1] ISO 105-C08, *Textiles — Tests for colour fastness — Part C08: Colour fastness to domestic and commercial laundering using a non-phosphate reference detergent incorporating a low temperature bleach activator*

NATIONAL ANNEX A

(*National Foreword*)

EXTRACTS FROM INTERNATIONAL STANDARDS

(A) Extracts from Textiles — Tests for colour fastness — Part F01: Specification for wool adjacent fabric

The fabric shall have the following properties:

Mass per unit area: 125 ± 5 g/m^2 .

Colour specification: The CIE chromaticity coordinates for CIE standard illuminant D65 and CIE 1964 supplementary standard colorimetric observer (10° observer).

$x_{10} = 0.337 \pm 0.002$

$y_{10} = 0.356 \pm 0.002$

with the luminance factor

$Y_{10} = 72 \pm 2$

The yellowness (G) of the fabric shall be G = 25 ± 2 when determined by the formula:

$$G = \frac{1.301X_{10} - 1.149Z_{10}}{Y_{10}} \times 100$$

NOTE: Formula described in DIN 6167.

The *p*H of the aqueous extract shall be 7 ± 0.5 when determined by the method described in IS 1390 : 1983 'Methods for determination of *p*H value of aqueous extracts of textile materials (*first revision*)'.

The mass fraction of residual dichloromethane — Soluble matter shall be 0.5 ± 0.1 percent.

The alkali solubility shall not exceed 18 percent when determined by the method in IS 3429 : 1966 'Method for determination of solubility of wool in alkali'.

(B) Extracts from Textiles — Tests for colour fastness — Part F02 : Specification for cotton and viscose adjacent fabrics

i) Cotton

The fabric shall have the following properties:

Mass per unit area: (115 ± 5) g/m^2 when determined in accordance with IS 1964 : 2001 'Textiles — Methods for determination of mass per unit length and mass per unit area of fabrics (*second revision*)'.

Whiteness value: $y_{10} = 80 \pm 2$

$w_{10} = 73 \pm 2$

$T_{10} = -1 \pm 1$ (that is –2 to 0)

Measurements shall be made with specular included in accordance with IS 15098 : 2002 'Textiles — Method for calculation of colour difference', excluding 0/45 (45/0). Luminance (Y_{10}), Whiteness (W_{10}) and Tint (T_{10}) values shall be calculated using CIE Standard illuminant D65 and CIE 1964 supplementary standard colorimetric observer (10° observer).

*p*H of the aqueous extract shall be 7.0 ± 0.5 when determined by the method described in IS 1390.

ii) Viscose

The fabric shall have the following properties:

Mass per unit area: (140 + 5) g/m^2 when determined in accordance with IS 1964.

Whiteness value: $y_{10} = 85 \pm 3$

$w_{10} = 58 \pm 4$

$T_{10} = -1 \pm 1$ (that is –2 to 0)

Measurements shall be made with specular included in accordance with IS 15098, excluding 0/45 (45/0). Luminance (Y_{10}), Whiteness (W_{10}) and Tint (T_{10}) values shall be calculated using CIE Standard illuminant D65 and CIE 1964 supplementary standard colorimetric observer (10° observer).

(C) Extracts from Textiles — Tests for colour fastness — Part F03: Specification for polyamide adjacent fabric

The fabric shall have the following properties:

Mass per unit area: 130 ± 5 g/m^2 .

Whiteness value: $Y_{10} = 86 \pm 2$

$W_{10} = 65 \pm 2$

$T_{10} = 1 \pm 1$ (that is, –2 to 0)

Measurements shall be made with specular included in accordance with ISO 105-J01, excluding 0/45 (45/0). Luminance (Y_{10}), Whiteness (W_{10}) and Tint (T_{10}) values shall be calculated using CIE Standard illuminant D65 and CIE 1964 supplementary standard colorimetric observer (10° observer).

The *p*H of the aqueous extract shall be 7 ± 0.5 when determined by the method described in IS 1390 : 1983 'Method for determination of *p*H value of aqueous extracts of textile materials (*first revision*)'.

(D) Extracts from Textiles — Tests for colour fastness — Part F04: Specification for polyester adjacent fabric

The fabric shall have the following properties:

Mass per unit area: 130 ± 5 g/m^2.

Whiteness value: $Y_{10} = 86 \pm 2$
$W_{10} = 70 \pm 2$
$T_{10} = 0 \pm 1$ (that is, − 1 to 1)

Measurements shall be made with specular included in accordance with ISO 105-J01, excluding 0/45 (45/0). Luminance (Y_{10}), Whiteness (W_{10}) and Tint (T_{10}) values shall be calculated using CIE Standard illuminant D65 and CIE 1964 supplementary standard colorimetric observer (10° observer).

The *p*H of the aqueous extract shall be 7 ± 0.5 when determined by the method described in IS 1390 : 1983 'Method for determination of *p*H value of aqueous extracts of textile materials (*first revision*)'.

(E) Extracts from Textiles — Tests for colour fastness — Part F05: Specification for acrylic adjacent fabric

The fabric shall have the following properties:

Mass per unit area: 135 ± 5 g/m^2.

Whiteness value: $Y_{10} = 86 \pm 2$
$W_{10} = 67 \pm 2$
$T_{10} = 1 \pm 1$ (that is, 0 to 2)

Measurements shall be made with specular included in accordance with ISO 105-J01, excluding 0/45 (45/0). Luminance (Y_{10}), Whiteness (W_{10}) and Tint (T_{10}) values shall be calculated using CIE Standard illuminant D65 and CIE 1964 supplementary standard colorimetric observer (10° observer).

The *p*H of the aqueous extract shall be 7 ± 0.5 when determined by the method described in IS 1390 : 1983 'Method for determination of *p*H value of aqueous extracts of textile materials (*first revision*)'.

(F) Extracts from Textiles — Tests for colour fastness — Part F06: Specification for silk adjacent fabric

The fabric shall have the following properties:

Mass per unit area: 60 ± 3 g/m^2.

Whiteness value: $Y_{10} = 91 \pm 2$
$W_{10} = 79 \pm 3$
$T_{10} = -1 \pm 1$ (that is, −2 to 0)

Measurements shall be made using the instrument geometry d/0, specular included in accordance with ISO 105-J01. Luminance (Y_{10}), Whiteness (W_{10}) and Tint (T_{10}) values shall be calculated using CIE Standard illuminant D_{65} and CIE 1964 supplementary standard colorimetric observer (10° observer).

The *p*H of the aqueous extract shall be 7.8 ± 0.5 when determined by the method described in IS 1390:1983 'Method for determination of *p*H value of aqueous extracts of textile materials (*first revision*)'.

The residual matter, after extraction with diethyl ether shall not exceed 0.5 percent.

The alkali solubility shall not exceed 19 percent (*m/m*) when determined by the method given in IS 3429 : 1966 'Method for determination of solubility of wool in alkali'.

(G) Extracts from Textiles — Tests for colour fastness — Part F07: Specification for secondary acetate adjacent fabric

The fabric shall have the following properties:

Mass per unit area: 160 ± 5 g/m^2.

Whiteness value: $Y_{10} = 86 \pm 2$
$W_{10} = 69 \pm 2$
$T_{10} = -1 \pm 1$ (that is, − 2 to 0)

Measurements shall be made with specular included in accordance with ISO 105-J01, excluding 0/45 (45/0). Luminance (Y_{10}), Whiteness (W_{10}) and Tint (T_{10}) values shall be calculated using CIE Standard illuminant D65 and CIE 1964 supplementary standard colorimetric observer (10° observer).

The *p*H of the aqueous extract shall be 7 ± 0.5 when determined by the method described in IS 1390 : 1983 'Method for determination of *p*H value of aqueous extracts of textile materials (*first revision*)'.

NATIONAL ANNEX B

(*National Foreword*)

COMMITTEE COMPOSITION

Chemical Methods of Test Sectional Committee, TXD 05

Organization	*Representative(s)*
Textiles Committee, Mumbai	Dr G. S. Nadigar (***Chairman***) Shri E. Viswambharam (*Alternate*)
Bapuji Institute of Engineering & Technology, Davangere	Dr H. L. Vijaykumar Dr K. Murugesh Babu (*Alternate*)
Central Institute for Research on Cotton Technology, Mumbai	Dr (Miss) C. R. Raje Dr R. H. Balasubramanya (*Alternate*)
Central Pollution Control Board, Delhi	Dr M. Q. Ansari Shri Ajay Aggarwal (*Alternate*)
Clariant India Ltd, Mumbai	Dr V. G. Nayak
Directorate of Standardization, Department of Defence Production and Supplies, New Delhi	Lt-Col (Dr) R. Srivastava Lt-Cdr B. Manjunath (*Alternate*)
Indian Institute of Carpet Technology, Bhadohi	Prof (Dr) K. K. Goswami Shrimati Betty Das Gupta (*Alternate*)
Indian Jute Industries' Research Association, Kolkata	Shri N. C. Soni
Jaya Shree Textiles, Rishra	Shri Abhey Nair Shri Pawan Sharma (*Alternate*)
L. N. Chemical Industries, Mumbai	Shri Ketan L. Gandhi
Maniklal Verma Textile Institute, Bhilwara	Dr N. K. Mathur
Man-Made Textile Research Association, Surat	Dr Sandeep R. Naik Shri M. G. Patel (*Alternate*)
Ministry of Defence (DGQA), New Delhi	Shri P. P. Naidu Shri Rama Yadav (*Alternate*)
Ministry of Defence (R&D), New Delhi	Shri S. C. Jain
Office of the Textile Commissioner, Mumbai	Shri R. A. Lal
Rajasthan Spinning and Weaving Mills Ltd, Bhilwara	Maj Gen V. Badhwan Shri Vijay Yadav (*Alternate*)
Reliance Industries Ltd, Mumbai	Shri P. K. Badami Shri Sanjeev Israni (*Alternate*)
SNDT Women's University, Mumbai	Dr (Ms) Bharati A. Patwardhan
Suditi Industries Ltd	Shri R. Chinraj Shri Rajendra Gaikwad (*Alternate*)
Sunil Industries Ltd, Mumbai	Shri Vinod. G. Lath Shri Ramesh Khanna (*Alternate*)
Tex-an-Lab, Thane	Shri Ullhas Nimkar Shri S. Vardarajan (*Alternate*)
Textiles & Engineering Institute, Ichalkaranji District Kohlapur	Prof S. K. Laga Prof S. S. Chinchwade (*Alternate*)
The Bombay Millowner's Association, Mumbai	Shri Mahesh Sharma
The Bombay Textile Research Association, Mumbai	Shri A. V. Affini Shri B. S. Acharya (*Alternate*)
The South India Textile Research Association, Coimbatore	Shri D. Balasubramanian

Organization	*Representative(s)*
The Synthetics & Art Silk Mills' Research Association, Mumbai	Shri K. S. Taraporewala Shri D. L. Shah (*Alternate*)
Veermata Jeejabai Technological Institute, Mumbai	Prof K. D. Gawand
Wool Research Association, Mumbai	Smt G. P. Rane Shri V. C. Panse (*Alternate*)
In personal capacity (*2 Siddhi Vinayak Cooperative Group Housing Society, Swatantra Veer Savarkar Marg, Prabhadevi, Dadar, Mumbai)*	Shri M. D. Dixit
BIS Directorate General	Shri M. S. Verma, Scientist 'F' and Head (TXD) [Representing Director General (*Ex-officio*)]

Member Secretary
Shri M. S. Verma
Scientist 'F' and Head (TXD), BIS

(Continued from second cover)

are listed below along with their degree of equivalence for the editions indicated:

International Standard	*Corresponding Indian Standard*	*Degree of Equivalence*
ISO 105-A01 : 1994 Textiles — Tests for colour fastness — Part A01: General principles of testing	IS/ISO 105-A01 : 1994 Textiles — Tests for colour fastness: Part A01 General principles of testing	Identical
ISO 105-A02 : 1993 Textiles — Tests for colour fastness — Part A02: Grey scale for assessing change in colour	IS/ISO 105-A02 : 1993 Textiles — Tests for colour fastness: Part A02 Grey scale for assessing change in colour	do
ISO 105-A03 : 1993 Textiles — Tests for colour fastness — Part A03: Grey scale for assessing staining	IS/ISO 105-A03 : 1993 Textiles — Tests for colour fastness: Part A03 Grey scale for assessing staining	do
ISO 105-A04 : 2001 Textiles — Tests for colour fastness — Part A04: Method for the instrumental assessment of the degree of staining of adjacent fabrics	IS/ISO 105-A04 : 2001 Textiles — Tests for colour fastness: Part A04 Method for the instrumental assessment of the degree of staining of adjacent fabrics	do
ISO 105-A05 : 1996 Textiles — Tests for colour fastness — Part A05: Instrumental assessment of change in colour for determination of grey scale rating	IS/ISO 105-A05 : 1996 Textiles — Tests for colour fastness: Part A05 Instrumental assessment of change in colour for determination of grey scale rating	do
ISO 105-F10 : 1989 Textiles — Tests for colour fastness — Part F10: Specification for adjacent fabric: Multifibre	IS 15099 : 2002 Textiles — Multifibre adjacent fabric — Specification	Technically Equivalent
ISO 105-J03 Textiles — Tests for colour fastness — Part J03: Calculation of colour difference	IS 15098 : 2002 Textiles — Method for calculation of colour difference	do
ISO 3696 Water for analytical laboratory use — Specification and test methods	IS 1070 : 1992 Water — Reagent grade — Specification (*third revision*)	do

The technical committee has reviewed the provisions of the following International Standards referred in this adopted standard and has decided that they are acceptable for use in conjunction with this standard. Extracts from these International Standards are given in National Annex A.

International Standard	*Title*
ISO 105-F	Textiles — Tests for colour fastness — Part F: Standard adjacent fabrics
ISO 105-F01	Textiles — Tests for colour fastness — Part F01: Specification for wool adjacent fabric
ISO 105-F02	Textiles — Tests for colour fastness — Part F02: Specification for cotton and viscose adjacent fabric
ISO 105-F03	Textiles — Tests for colour fastness — Part F03: Specification for polyamide adjacent fabric
ISO 105-F04	Textiles — Tests for colour fastness — Part F04: Specification for polyester adjacent fabric
ISO 105-F05	Textiles — Tests for colour fastness — Part F05: Specification for acrylic adjacent fabric
ISO 105-F06	Textiles — Tests for colour fastness — Part F06: Specification for silk adjacent fabric
ISO 105-F07	Textiles — Tests for colour fastness — Part F07: Specification for secondary acetate adjacent fabric
ISO 105-J01	Textiles — Tests for colour fastness — Part J01: General principles for measurement of surface colour

The composition of the Committee responsible for the formulation of this standard is given in National Annex B.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounding off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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